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THE
PLOTTER

CLACKAMAS COUNTY AREA T/S
USERS GROUP
NEWS LETTER
****
VOLUME 5   **   NUMBER 6-7
******
JUNE-JULY 1987

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****

MEETING

The JUNE meeting will be:

on: FRI., JUNE 12, 1987

at: 7:30 P.M.
in: COMMUNITY ROOM
FAR WEST FEDERAL S & L
OREGON CITY SHOPPING CENTER
****

WHAT YOU WILL FIND IN THIS ISSUE

COMPUTING THE FUTURE--
IN CLACKAMAS COUNTY
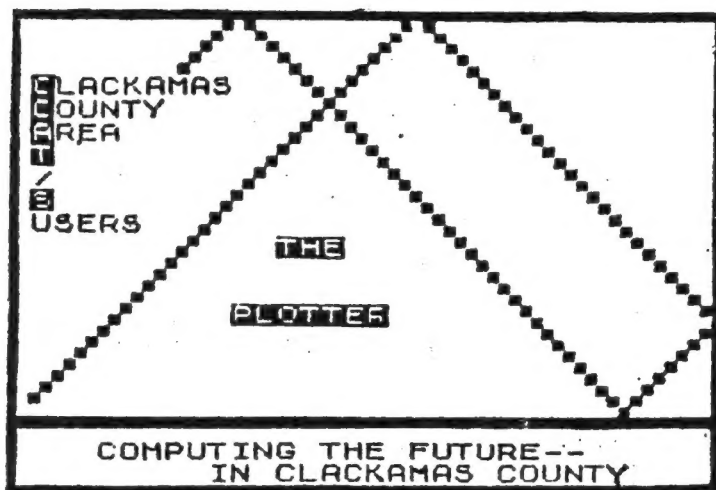
Chairmans' Corner

Seems our little 'door stops' are maintaining quite a following, at least that's the indication we received from the Indy 'Fest.

If you missed the meeting, you missed an excellent report on the biggest event in Timex Compterdom, this year! There were lots of new things shown and announced. Looks like an exciting year!

Bring your computer or other interesting item to the next meeting. We need to hear from some of you quiet ones. See you at the next meeting, it's the last one until August.

Sorry, no Secretary report this month.
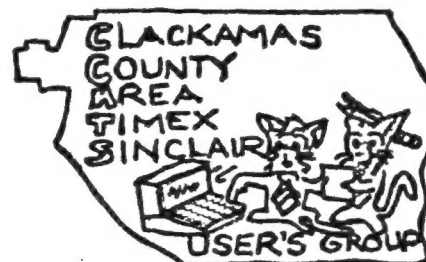
PORTLAND AREA TIMEX/SINCLAIR USERS (PATS) -- CORNER
by Michael E. Carver

The Machine Code SIG is progressing quite well. From the response of those who have attended the sessions, I feel that we have finally reached our first significant plateau. There is still alot to be learned. Once again I want to thank Syd for providing excellent lessons!

Don't miss our next meeting, Saturday, June 13th, 1pm - 4pm at the Sylvania Campus of Portland Community College.

IMPORTANT: June is a month were PATS meets before CCAT/S!

At the April meeting of CCAT/S a short discussion of Expert Systems was had. The following program is a quasi-expert system. By considering the input, the program will analyse the possibilities of a CCAT/S or PAT/S meeting. See if you can follow the logic and discover how the program "thinks". I tried to include the same thought process us humble humans would use to deduct if a meeting is to be held. Give the program a try and if you have any questions, bring them to the next CCAT/S meeting.

Extensive checks on the user's input are not included in the program. The only checks made are to insure that input is in a format the program's "thought" process can use.

```
10 REM ***********************
20 REM * demi-expert system **
30 REM *** by m. e. carver ***
40 REM ***********************
50 BORDER 1: INK 7: PAPER 1: CLS : LET p=0: LET c=0
100 PRINT AT 3,1; INVERSE 1;"Demi-Expert System to calculate"
110 PRINT AT 4,1; INVERSE 1;"CCAT/S & PAT/S Regular Meetings"
120 INPUT "Which group? ";g$
130 PRINT AT 8,0;"Checking for a "; INVERSE 1;g$; INVERSE 0;" meeting "
```

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BITS & BYTES

by: ROD GOWEN

Heard any TS related news lately? Did you get any information in the mail from other users, user groups or vendors that may be of interest to our readers? If so, why not share it with us? We need all of the help that we can get. Please send any info that you might have to: Rod Gowen, C/O CCAT/S, 1419 1/2 7th Street, Oregon City, OR 97045, or, phone in at: 503/655-7484, 10 AM-10 PM weekdays. I know that the entire user group will appreciate it!

FEST! FEST! FEST! FEST! FEST! FEST!! Well, it's over! It's history!!!!!!! I beleive that it was a HUGE success and that there WILL be more! I will not dwell on it in this column as you can read about it elsewhere in this issue. Suffice it to say that if you did not go, you missed out on what had to be, the LARGEST single gathering of SINCLAIRITES in this country!

AERCO-was at the Fest with a couple of new additions to their disk interface. They now have SPECTRUM compatability and the LROS function is now usable. The SPECTRUM is on disk and, at the time of the show, would only go to 32K. They expect to have it up to the full 48K by the end of May. There was an AERCO USERS meeting at which Jerry and Til were bombarded with questions for more than 2 hours! We did learn that the priority schedule is this: 1> Finish the SPECTRUM 2> Debug the RP/M disk and 3> Initialize the CHR$ and DATA$ as well as array saving. The time was uncertain, but Jerry thought that he would be done early this fall. All of you Aerco users who want to upgrade to VERS. 9.0 ROM should send $10 to Aerco and request it.

TIME DESIGNS MAGAZINE-was there and had sample copies of the new Mike De Sosa book, TAKING THE QUANTUM LEAP! At over 200 pages, it is a real nice piece of work, and I do mean WORK! I know what is involved in putting a book like that together! At $26.95 postpaid, I think it is a bargain. Be sure to check with your local dealer, he may carry it. Or you may order direct from TDM.

RMG BBS NEWS!-The BBS is now running a TRIVIA contest! If you are the first caller to correctly answer the Trivia question each week, you can win a gift certificate from RMG! It may not seem like much, but it can help toward the phone bill! When you get on the BBS go to base E> QL QORNER to look for the question. Good Luck! Our first weeks' winner was our own MICHAEL CARVER. The BBS is now running on 2 QUAD drives and has a data capacity of over 1.5MB on disk! There will soon be an online catalog to make it easier to order. All that and the new, longer hours are making the RMG BBS the place to meet. Just call: (503)656-8072 any evening between 8 PM and 10 AM Pacific time. No password required. The set up is: 8 bit word, 1 stop bit, NO parity.

LARKEN-disk interface for the 2068 was shown at the Fest by RMG and there seemed to be a LOT of interest in the new 2 board system. I will not spend a lot of time on it this month, as I described it here in detail last time. I did not, as was pointed out to me, give any prices! The 2 board system, the DOS cart and the controller card sell for $115.00 plus $3 shipping from RMG and you can also order direct from LARKEN. The DOS cart for the other systems will sell for $65.00 plus $2 sh.

LIBRARY NOTE:-If you have not looked into our group Library in a while, you are missing a great opportunity to gain a LOT of useful and valuable information. We are now exchanging newsletters with over 20 other groups in North America. There is a wealth of knowledge in these papers! I know that a lot of what they print is repeated from others, but you cannot afford to miss the chance to find that 1 vital piece of info you may need! Just call 655-7484 to find out more. 10AM to 10PM Tues-Sat.

We'll have more BITS & BYTES for you next time! Until then,
        --KEEP ON T/Sing!!!

DENSE PACK BASIC

Bill Jones

Referense:"Speed Up Basic" in Plotter (4/87). The use of Boolean logic with BASIC has not been covered well in computer literature. (Ed. Boolean Logic, named after George Boole, who defined an algebra of logical operations, such as AND, OR, and NOT, on the two values true and false). The Timex Sinclair computers are very accomodating to Boolean logic. Almost any Boolean expression is acceptable when enclosed in brackets after any key word. Not only does such logic expressions speed up BASIC programs, but memory usage for such expressions can be reduced as much as 70 per cent as compared with conventional BASIC expressions. Moreover, the use of Boolean can greatly reduce the need for multiple branching to sub-routines. Entire packages of sub-routines are contained in one line of programming. Such packages may contain an elaborate chain of IF THEN conditional statements, action programming, print statements, computations, GO SUBs and Machine code calls. TS-1000 users can do in one line what would require 10 or more lines of programming to accomplish, while TS-2068 users can pack in much more.

Enclosed are excerpts from one of my software manuals that explains some of the applications and rules of using Boolean Logic in BASIC programming. These are applicable to all computers, but especially suited to the TS-1000 and TS-2068. "Dense Pack" employs other memory saving techniques to become a means of incorporationg more functions in a BASIC program than would be possible using conventional methods of programming. In fact, the use of Dense Pack reduces memory requirements to that required for a Machine Code program that accomplishes the same functions, while retaining the user friendliness of BASIC. While speed of operation is considerably improved, it does not match the speed of Machine Code in execution.

Sincerly,

Bill Jones

"Dense Pack" is an acronym, coined by yours truly, to give a name to a group of programming techniques. Dense Pack is inovations that use memory saving techniques and Boolean_expressions to save tremendous amounts of program memory. Despite the bank switching capabilities of the TS-2068, most users do not have extra memory, and if such extra memory is aboard, the machine can only address one bank at a time. So, we are stuck with a FREE RAM of 38652 bytes. This limitation requires extra ordinary techniques to pack in such comprehensive works as Smart Text. I will devote enough space to the subject to give you a start off. Then it should be fun to see what you can make of it for your own programming. Also, this will help when you are trying to decipher the mixture of chinese and aribic of my program lines. While programming the first version of Smart Text, I ran out of FREE memory and had no room left for Data Files. Now that wouldn't be much use to anyone, would it! The application of Dense Pack cut the program length by half and allowed many more functions to be added.

We start kinda like the daughter's wedding, with something old, something borrowed, and something new. You have read that less memory is used when variables are used for numbers. For short programs, it is not worth the effort. However for long programs such as Smart Text, it is well worth the effort to spend some memory to establish a table of variables to use over and over. You'd be surprised how many times a long program ises the numbers through 20. Dense Pack sets up these numbers in a "Pseudo hex" table. The system lends itself to "counting on your pinkies" as does most folks, even math professors. It goes like this:

oo=0, oa=1, ob=2, oc=3, through ou=20. Soon one's mind adjusts to pseudo hex, and one finds oneself counting on fingers, using 'a, b, c, through u'. Now I could have used ,Seminole hex', where 1, 2, 3, 4, 5, IS 'umi, coli, chani, coi, chocki', but most folks would have difficulty with Indian counting. Throughout the programming, this pseudo hex table is used to save lotsa memory. Rhen you see an 'o' variable, you can count up the alphabet to interpret the number.

Dense Pack uses <u>Boolean</u> <u>expressions</u> instead of 'IF THEN' expressions. The results are the same, but many lines of programming are eliminated. Would you believe a dozen 'IF THEN Conditions' in a single line? Such a line would save about 75 per cent of memory used for conventional programming of the 12 IF THENs. Lets examine a typical 'DENSE PACK' group of IF THEN conditions after a menu that has 9 options. <2120 GO TO (z<oa OR z)oi* VAL '2002'+(z=oa)*ip+(z=ob)*dm+ (z=oc)* ml+(z=od)* VAL '2110'+ (z=oe)* VAL '4055'+(z=of)*ba+(z=og) *te+(z=oh)*rp+(z=oi)*fm). Note the pseudo hex vars 'oa thru oi'. Then some line numbers are also represented by vars. But the big picture is the 10 IF THEN conditional that are stuffed into one line of programming. This eliminates nine lines of programming that would normally be required. Also, the method saves 75 per cent of the memory required for conventional programming. The 'IF THENs' are implied in each of the expressions enclosed in brackets. The CPU trips through the whole tulip patch and evaluates all 10 of the IF THEN conditions.

DENSE PACK RULES: Yes, there are rules to observe. You must account for ALL POSSIBLE conditions. This line would work: <10 PRINT (Hello' AND y=1) + ('Good Bye' AND y=2)>. BUT- if y should be something else than 1 or 2, the CPU would take off looking for what to do. Since it could not find the solution, the last line of the whole program would likely be executed. A safer way of

expressing would be: <10 PRINT (Hello' AND y<2) + (Goodbye' AND y>1)>. Now here is an example of Dense Pack mixed with a conventional expression: <10 IF Z=1 THEN GO TO (b=1)*100+(b=2)*200+(b<1 OR b)2*10). Do You see the the protective measure in the last bracket? Another rule is, the factors within the brackets cannot be mixed. This line would not work: <10 GO SUB (a=)*200+(b=1)*300>. 'a' and 'b' cannot be evaluated within the same group. BUT, they caould as in: <10 GO SUG (a<2)*200+(a)1)*300: GO TO (b<2)*400+(b)1)*500>.

```
  140 INPUT "Day of the Week? ";d
$: IF LEN d$<3 THEN PRINT #1;"Ne
ed 2 or more letters": PAUSE 200
: GO TO 140
  150 PRINT : PRINT "On "; INVERS
E 1;d$;
  160 INPUT "Month ? ";m$: IF LEN
 m$<3 THEN PRINT #1;"Need 3 or m
ore letters": PAUSE 200: GO TO 1
60
  170 PRINT " "; INVERSE 1;m$;
  180 INPUT "Day of the month? (1
-31) ";d
  190 PRINT " "; INVERSE 1;d
  200 INPUT "Is the above correct
? (y/n)";x$
  210 IF x$="n" OR x$="N" THEN GO
 TO 100
1000 GO SUB 9000
1010 IF r$(1)<>"F" AND r$(1 TO 2
)<>"SA" THEN GO TO 8000
1020 LET c=r$(1)="F" AND (d>7 AN
D d<15)
1030 LET p=r$(1 TO 2)="SA" AND (
d>7 AND d<15)
1040 IF c=1 AND (m$(3)="1" OR m$
(3)="L") THEN GO TO 8000
1050 IF p=0 AND c=0 THEN GO TO 8
000
7000 REM ** Print meeting info *
7010 DIM a$(32): PRINT : PRINT B
RIGHT 1; INVERSE 1;a$: PRINT
7020 IF c=1 AND (g$(1)="C" OR g$
(1)="c") THEN GO TO 7500
7030 IF c=1 THEN PRINT "No, ther
e isn't a ";g$;" meeting": PRINT
 "scheduled."
7040 IF c=1 THEN PRINT : PRINT "
But there is a CCAT/S meeting","
on ";d$;" ";m$;" ";d: GO TO 9900
7050 IF g$(1)="P" OR g$(1)="p" T
HEN GO TO 7500
```

by: ROD GOWEN

Well, the GREAT EVENT is over!

I can honestly say that I really enjoyed the whole weekend. Other than the fact that I got only about 10 hours sleep in 4 days, it was a super affair! I have done so in a lot of places before, but I must do so again here, give my heartiest thanks and congratulations to FRANK DAVIS, PAUL HOLMGREN and the rest of the FEST committee who worked so hard to put this thing together and who made it run so smooth! Over 10,000 manhours in the making! AND AT NO PAY! What dedication! WE THANK YOU!

Tim Woods of TDM, along with his wife Stephanie were on the same plane as my wife and I were. We left Portland at about 7 AM Friday, May 1, 1987 and arrived in Indianapolis at the hotel about 3 PM Indy time. By 4 PM we were busy setting up our table and at 7 PM had to stop to get ready for a fine dinner that was to be held at 8 PM for all of the vendors and the committee. This was attended by well over 100 people. After the dinner, about 10:30 PM, we attended a QL dealer meeting. That ended at about 1 AM. To bed we went, only to arise again at about 5 AM so that we could finish setting up the table before the public was allowed in at 9 AM.

9 AM!- I was hoping that we would have a lot of people there, but was totally unprepared for the mass of humanity that fell upon the two exhibit rooms! By 11 AM it was wall-to-wall people! With over 47 dealers and user groups having tables, there were walkways about 5 feet wide and with an estimated 1100 people there on Saturday, May 2, there was barely room to turn around. We were unable to get away for lunch so had room service bring some in. After a FULL day of meeting and talking to hundreds of people, most of whom we only knew from phone calls and letters, we were glad to see the doors close

at 6 PM. After a little straightening up, we found our room and cleaned up for dinner. At 8 PM, I attended the AERCO USERS meeting. This was a very informative and active meeting where Jerry and Til of Aerco, fielded questions about their system and what the future will bring to the Aerco users. David Hill, Editor of the FD68 USER Newsletter, was there with a slightly red face for not having gotten his newsletter out on time! He said that he hoped to have the next issue out by the end of May. We hope that he makes it! Jerry was asked what was on the schedule for the future. His reply was that he had a priority list and that #1 on that list was to finish the SPECTRUM disk for the system. It was operational to 32K at the show but will be up to a full 48K soon. #2 on the list was to correct the "bugs" in the programs on the RP/M disk. #3 is to finish the DOS and implement the array handling so that you can save numeric and character arrays. We hope that they get it done as per the projected schedule.

After the Aerco meeting, at about 11:30 PM, I attended a mini meeting in the room of Leroy Watson, who had written a couple of utilities for the Aerco system. I got copies of his DOS-64 which allows the use of OS-64 from Zebra, with the Aerco system. The other was an easy to use bank switching routine for the 256K users. This meeting broke up at about 2 AM.

A short nap and it was 7 AM and time to get the table ready for Sundays' crowd. At 9 AM the doors again opened up and we must have had an additional 200-300 people who had not been there on Saturday! Even thought the show was not due to close until 5 PM, I noticed that a lot(?), I should say most, of the dealers were already packing up by 2 PM! This was the one thing that I found to be most distateful(?) to me of the whole show. I made mention to the committee that there ought to be a rule with this show as there is with most shows of this type, that NO DEALER MAY START TO TEAR DOWN AND

PACK UP UNTIL THE DOORS CLOSE TO THE PUBLIC! As soon as the public saw the dealers packing it in, they must have said to themselves, "Must be over, let's go home.", and that is just what they did! By 4 PM there was NO ONE LEFT in our exhibit room other than my wife and myself!

By 7:30 PM we were done with packing up and storing our boxes for shipment the next day, so we had a leisurely dinner and turned in at about midnight. We had to be up at 3:30 to get to the airport in time to catch our 5:30 flight back to Portland.

A few points: There were 24 seminars going on during the 2 day event. Some were duplicated and I hope that a lot of people got to hear what they wanted. I had planned on getting to at least 2 of these, but did not make any! The SMUG user group from Milwaukie, Wisconsin, had 3 video cameras going during the show. 1 in each of the seminar rooms and 1 was roaming around the exhibit rooms for the 2 days. They say that there was over 27 hours of tape shot and they plan to make copies of them available as soon as the editing is done. I have spoken for a set of these tapes and will then make them available to the group.

I am sure that you will hear and see much about the Fest in the weeks and months ahead, but, unless you were there, you will NEVER know what you missed!

See you at the next FEST?!!

MEMBERSHIP LIST

Please make these corrections/ additions to your 1987 membership list sent out in the May PLOTTER.-

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```
7060 PRINT "No, there isn't a ";
g$;" meeting": PRINT "scheduled.
"
7070 PRINT : PRINT "But there is
 a PAT/S meeting","on ";d$;" ";m
$;" ";d: GO TO 9900
7500 PRINT "Yes there is a ";g$;
" meeting ","scheduled for ";d$;
" ";m$;" ";d: GO TO 9900
8000 PRINT : PRINT : PRINT FLASH
 1;"**"; FLASH 0;" There are NO
regular meetings"
8010 PRINT "scheduled for:": PRI
NT : PRINT d$;" ";m$;" ";d
8020 PAUSE 0: RUN
9000 REM ** Format d$ before
9010 REM ** checking reply
9020 DIM r$(LEN d$): FOR x=1 TO
LEN d$: LET r$(x)=d$(x)
9030 IF CODE d$(x)>90 THEN LET r
$(x)=CHR$ (CODE d$(x)-32)
9040 NEXT x
9050 RETURN
9900 PRINT : PRINT BRIGHT 1; INV
ERSE 1;a$: PAUSE 0: RUN ?
```

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MEETING NOTICE

DID YOU NOTE THAT THIS IS A COMBIN
JUNE-JULY ISSUE?? NO MEETING IN
JULY--NO MEETING NOTICES WILL BE
MAILED. LOOK FOR THE AUGUST PLOTT
WITH MEETING NOTICE--AUGUST 14.

FROM THE EDITORS DESK

THE PLOTTER has a new contributor, Bill Jones, who has an article on advanced programming in BASIC. It may require some study on the reader's part to follow through his discussion. The material is exerpted from his user manual that is provided with has program, SMART TEXT. The Editor appreciated his contribution as the newsletter would be short that much without it.

I recently learned of an unusual use for computer terminals. I have a membership in a campground organization where some 23 campgrounds now are provided with computers that are mainly terminals at this time. The head office is in Bellview Washington. These are used mainly for such things as making and transmitting reservations. The computers are located at the guard station at the entrance of each campground. Obviously this is a lonesome job at night with little activity unless a late arriver show up.

Well, there are now 6 games put into the head office computer when that office closes. With modem connections, any of these 6 games are accessible to the terminals. When things are quiet the night attendant can go at it! I was told that the company is working on an expansion of the game called Battleship that will permit players to play against each other, not just the computer.

I was also informed that a late night time arriver requireing information from the head office computer will cancel a game and could produce an irrate employee who is on a winning streak, requiring a start from scratch.

Living in an agricultural area has it laughs at times. Recently my wife was following, at a discrete distance, an old farm truck well loaded with manure. Deciding a safe moment to pass, upon doing so she noticed a nice sign on the back of the truck reading 'AVON CALLING'! Her chuckle for the day.

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############################### -8- ##

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